

OhioEPA

Ohio Environmental Protection Agency

**Permit to Install/Plan Approval Application
Sanitary Sewer and Pump Station Construction**

AGENCY USE ONLY

Application Number

Date Submitted

Applicant: American Energy Corporation
 Facility Owner: Same
 Ultimate owner if different: _____
 Application/Plans Prepared by: Jack A. Hamilton & Assoc., Inc.
 Project Name: Slurry Line (from the Century Mine Processing Plant to The Ohio Valley Coal Co's. #2 Dam Impoundment)

1. Project Description

- a. Describe the location, size, and current development of the area to be served. List street address, township, county, and include longitude and latitude coordinates in describing location.

N/A

- b. What is the possibility that future sanitary sewer extensions will connect to the sanitary sewers which are the subject of this application?

N/A

- c. Are there any pump stations included as part of this sewer(none) (pipeline) construction?
 (If No, skip items 14 through 22 for pump stations)

Yes

☐

No

☐

- d. Indicate type(s) of sewers proposed (check all that apply):

☐

Conventional gravity

☐

Small diameter gravity

☐

Pressure (GP or STEP)

☐

Vacuum

☐

Siphon

☒

Force main

2. Pipe Specifications: Please identify each type (as indicated in 1d above) and size of pipe included in this project.

Type	Pipe Size	Pipe Material	Material * Specification	Joint * Specification	Bedding ** Classification	Minimum Slope	Pipe Length	Maximum Manhole Spacing
Nipak PE 3408	12.75"	HDPE	SDR 7.3, 1.747" wall thickness					

* List ASTM, AWWA, or ANSI specification number.

** 100 percent to pass 3/4 inch sieve. ASTM C-12 (A, B, C), D-2321 (IA, IB, II, III), or other.

3. Design Flow in Proposed Sewer Design flow same as operating conditions, see Item 17.

Identify flows expected at start up (i.e., currently existing flows) and the flows expected at design (i.e., currently existing flows plus flows from future development) at terminus of proposed sewer.

	Average Daily Flow	Peak Hourly Flow
Start Up Flows (based on immediate area served)	MGD	MGD
Design Flows (based on planned area served)	MGD	MGD
Hydraulic Capacity of Sewer		MGD

Assumptions used to calculate above flows:	Start - Up	Design
Residential Population at _____ gal/cap./day	people	people
Non-Residential Flows (i.e., commercial, industrial, etc.)	MGD	MGD

4. Receiving Wastewater Treatment Facility N/A

- a. What treatment facility will be receiving flow from these sewers? _____

Present treatment facility average daily flow _____ MGD (based on _____ (month) 19 ____ ADF)

Proposed treatment facility average daily flow _____ MGD (based on present average daily flow plus all connections currently under construction or being designed)

Design average daily flow of the treatment facility _____ MGD (based on 19 ____ design year)

- b. Does the treatment facility have adequate capacity to treat anticipated flow from existing sewers plus the proposed sewers based on the sewer's design capacity? Yes ☐ No ☐

If No, please describe the steps being taken to ensure that the treatment facility has adequate capacity (on a separate sheet). Include specific work items and schedules as appropriate.

- c. Is there an intent to expand the treatment facility to treat additional flow? Yes ☐ No ☐

5. Connections to Existing Sewers and Pump Stations N/A

- a. Will the proposed sewer be connected to an existing sewer? Yes ☐ No ☐

If Yes,

1. What is the current peak flow in the existing sewer at the point of connection? _____ GPM

2. What is the design peak capacity of the existing sewer at the point of connection? _____ GPM

3. What type of sewage does the existing sewer carry? combined ☐ sanitary ☐

4. Does the existing sewer have the capacity to handle design flow from the new sewer without creating or worsening (existing CSOs only) any overflows, bypasses, or other operational problems downstream of the new sewer connection point? Yes ☐ No ☐

5. Connections to Existing Sewers and Pump Stations, cont. N/A

b. Will be proposed sewer be connected to an existing pump station?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If Yes,

1. With the largest unit out of service, what is the current peak flow in the pump station at the point of connection?

_____ GPM

2. With the largest unit out of service, what is the design peak pumping capacity of the pump station at the point of connection?

_____ GPM

3. What type of sewage does the existing pump station transport?

combined	sanitary
<input type="checkbox"/>	<input type="checkbox"/>

4. Does the existing pump station and sewer downstream of the pump station have the capacity to handle design flow from the new sewer without creating or worsening (existing CSOs only) any overflows, bypasses, or other operational problems downstream of the pump station discharge?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

c. Are there any overflow or bypasses upstream of the point of connection that may be impacted by the flows from the new sewer?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

d. Are there any sanitary overflows or bypasses or combined sewer overflows downstream of the point of connection?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

If Yes to c. or d., provide a description of the exact location of any overflows or bypasses (on a separate sheet).

6. Sewer Design N/A

a. Are the sewers deep enough to serve all adjacent basements? (refer to GLUMRB, *Recommended Standards for Wastewater Facilities*, 1990, Section 33.2) If no, please explain how the basements will be served:

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

b. Are sewers at a minimum depth of 4 feet to prevent freezing? (GLUMRB Section 33.2) If no, please explain how freezing will be prevented:

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

c. Where small sewers join larger ones, have the inverts of the larger sewers been lowered sufficiently to maintain the same energy gradient? (GLUMRB Section 33.6)

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d. Have provisions been made to protect sewers against displacement by erosion and impact at velocities over 15fps? (GLUMRB Section 33.45)

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e. Are sewers with slopes greater than 20 percent secured with concrete anchors (or equal), spaced as required? (GLUMRB Section 33.46)

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f. Do the sewers cross under or run parallel to any streams?

Cross	Parallel	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

i. If sewers cross under any streams, are the sewers at a sufficient depth to protect the sewer line? (GLUMRB Section 36.11)

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ii. Are any sewers running parallel to the stream sufficiently removed from the streambed? (GLUMRB Section 36.12)

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Force Mains ☐ N/A

- a. Will a cleansing velocity of at least 2 feet per second be maintained in the force main? (GLUMRB Section 48.1) If No, please explain:

Yes
☒No
☐

- b. Are air relief valve placed at high points in the force main to prevent air locking?
(GLUMRB Section 48.2) If No, please explain:

Yes
☐No
☒

Valve not required due to the operation and material being discharged.

- c. Is the force main designed to withstand water hammer pressures and associated cyclic reversal of stresses that are expected with the cycling of wastewater pump stations? (GLUMRB Section 48.4) If No, please explain:

Yes
☒No
☐

8. Stream Protection

- a. Are there any stream crossings?

Yes
☒No
☐

If Yes,

1. How many crossings are made? (GLUMRB Section 36.14)

3

2. Are the crossing perpendicular to the stream? (GLUMRB Section 36.14)

Yes
☒No
☐

3. Are crossings to be made at previously disturbed areas? N/A

Yes
☐No
☐

4. Is the streambed substrate composed primarily of solid rock, sand and gravel, or silt?

Casey Run substrate (Captina Creek & Berry's Run-overhead crossings)

Rock
☐Sand/gravel
☒Silt
☐

5. In areas of steep slope or unstable soils, are the sewers(none) (pipeline) located on more level, terraced areas?

Yes
☒No
☐N/A
☐

- b. Do any sewers(none) (pipeline) run parallel to any streams?

Yes
☐No
☒

If Yes,

1. Is there any woody vegetation along the streambanks?

Yes
☐No
☐

2. Are the sewers and construction easements located outside of the vegetated areas?

Yes
☐No
☐N/A
☐

3. In areas of steep slope or unstable soils, are the sewers located on more level terraced areas?

Yes

No
☐N/A
☐☐

If the response to either a. or b. is Yes, please provide the specific measures in the detail plans and specifications that will be used to ensure that damage to the stream corridor is minimized to the greatest extent possible and that the stream corridor is restored to original condition.

9. Manhole Design N/A

a. Manhole type (precast, cast-in-place, etc): _____

b. Material specification (ASTM): _____

c. Joint specification (ASTM): _____

d. Are watertight frames and covers used wherever manhole tops may be flooded by street runoff or high water? (GLUMRB Section 34.6) If no, explain:

e. Are manholes provided at the upstream end of each line? (GLUMRB Section 34.1)
If no, explain:f. Are manholes provided at all changes in size, grade, and alignment?
(GLUMRB Section 34.1) If no, explain:g. Are manholes provided at all sewer intersections? (GLUMRB Section 34.1)
If no, explain:

h. Are drop manholes provided where the entrance sewer inverts is 24 inches or more above the manhole invert? (GLUMRB Section 34.2) If no, explain:

i. Are inlet/outlet pipes connected with gasketed flexible watertight connections?
(GLUMRB Section 34.6) If no, explain:

Attach any additional sheets necessary for explanations.

10. Service Laterals N/A

a. Will wyes and/or tees be provided for service lateral connection at the time the sewer line is installed?



If no, please explain how will service laterals be connected to the sewer:

b. Will residences/businesses be connected to the new sewer using existing private laterals or new private service laterals?



c. Please identify the owner's specifications for private service laterals:

Pipe Size	Pipe Material	Material Specification	Joint Specification	Bedding Classification	Minimum Slope

10. Service Laterals, cont.

- d. Will the installation of private sewer laterals be monitored by the owner for quality of materials and installation?

☐ Yes

☐ No

☐ N/A
11. Protection of Water Supplies N/A

- a. Are there any physical connections between the sewer and a public or private potable water supply system (including all appurtenances)? (GLUMRB Section 38.1)

☐ Yes

☐ No

- b. Are any existing public waterworks units (e.g., public supply wells, water treatment facilities, storage facilities) within 200 feet of the proposed sewer or any private wells within 50 feet of the proposed sewer? (GLUMRB Section 38.2)

☐ Yes

☐ No

☐

If Yes, specify the plan sheets on which the sources are shown:

If Yes, will sewers be encased or constructed of watertight pipe?

Encased

Watertight

☐
☐

- c. Are the sewers at least 10 feet horizontally separated from water lines? (GLUMRB Section 38.31)

☐ Yes

☐ No

If No, please specify the plans sheets on which these conditions are not met, and describe the measures taken to ensure protection of the water system:

- d. When crossing water mains, are the sewers at least 18 inches below water lines? (GLUMRB Section 38.32)

☐ Yes

☐ No

If No, please specify the plans sheets on which these conditions are not met, and describe the measures taken to ensure protection of the water system:

12. Installation and Testing N/A

- a. Installation Inspector:

Name/Firm

Phone

Street Address

City

State

Zip

- b. What type of sewer leakage test will be use? (GLUMRB 33.9)

☐

Hydrostatic

☐

Air

Page numbers in specifications for testing requirements of gravity and pressure sewers:

- c. Is flexible pipe deflection testing specified? (GLUMRB 33.85)

☐

Yes

☐

No

☐

N/A

Page numbers in specifications for testing requirements of flexible pipe:

12. Installation and Testing , cont.

d. What type of manhole testing will be used? (GLUMRB Section 34.7) _____

Page numbers in specifications for testing requirements of manholes: _____

13. Sewer Use Ordinance N/A

A statement that "Roof drains, foundation drains, and other clean water connections to the sanitary sewer system are prohibited" must be shown on the plans. Copies of the ordinances or regulations providing for the enforcement of this requirement must be on file with Ohio EPA.

a. An ordinance/regulation to this effect was adopted on: _____ (date).

b. Enforcement of this ordinance/regulation is the responsibility of: _____

c. It is the opinion of the engineer submitting these plans that adequate enforcement of this ordinance/regulation is being properly carried out.



14. Pump Stations - Description

☐ N/A (Skip to Item 23)a. How many pump stations are included in this project? 1

b. Type of pumps/pump station (check as many as apply):



Concrete



Metal



Fiberglass



Factory Built



Built-in Place



Submersible



Suction Lift



Screw Pump

c. Type of wastewater to be pumped:



Sanitary



Combined (sanitary/storm)



Commercial



Industrial

Source of industrial waste (if applicable): Coal mine processing waste

15. Flood Protection for Pump Stations

a. Flood elevation (GLUMRB Section 41.1): _____ 100 year, MSL _____ 25 year, MSL

b. Is the site subject to flooding?



Yes



No

c. Is the pump station site accessible at all times? (GLUMRB Section 41.2)



Yes



No

d. Is the site graded to lead surface drainage away from the station? (Inside Building)



Yes



No

e. Is the site protected to prevent vandalism and unauthorized entry? (GLUMRB Section 41.2)



Yes



No

f. Distance to nearest residence: 2650 feetg. Distance to nearest building: _____ feet N/A

16. Design Flow from Pump Station Design flow same as operating conditions. See item 17.

Identify flow expected at start up (i.e., currently existing flows) and the flows expected at design (i.e., currently existing flows plus flows from future development) tributary to the pump station.

	Average Daily Flow	Peak Hourly Flow
Start Up Flows (based on immediate area served)	MGD	MGD
Design Flows (based on planned area served)	MGD	MGD

Assumptions used to calculate above flows:	Start-Up	Design
Residential Population at _____ gal/cap./day	people	people
Non-Residential Flows (i.e., commercial, industrial, etc.)	MGD	MGD

17. Pump Specifications

Include all pumps in the pump station (existing or proposed) when completing this table.

ALL PUMPS	Pump 1	Pump 2	Pump 3	Pump 4
Existing or proposed	Existing			
Pump type	Centrifugal			
Casing material	High Chrome Steel			
Impeller type	Closed			
Motor type (variable or constant speed)	Constant			
Are high/premium efficiency motors specified?				
Operating conditions: Rate T.D.H.	1800 gpm 474 ft.	gpm ft.	gpm ft.	gpm ft.
Speed range	1800 rpm	rpm	rpm	rpm
250 Horsepower				

DRY PIT PUMPS ONLY <input checked="" type="checkbox"/> N/A	Pump 1	Pump 2	Pump 3	Pump 4
Will the pump pass a 3" sphere? (GLUMRB Section 42.33)				
Diameter of suction openings (GLUMRB Section 42.33)				
Diameter of discharge opening (GLUMRB Section 42.33)				
Is the water seal unit air gapped? (OAC 3745-95)				
Does the pump have its own intake? (GLUMRB Section 42.36)				
Does the pump have its own discharge line check valve? (GLUMRB Section 42.52)				
Does the pump have its own suction line shutoff valve? (GLUMRB Section 42.51)				
Does the pump have its own discharge line shutoff valve? (GLUMRB Section 42.52)				
SUBMERSIBLE PUMPS ONLY <input checked="" type="checkbox"/> N/A	Pump 1	Pump 2	Pump 3	Pump 4
Will the pump pass a 3" sphere? (GLUMRB Section 42.33)				
Diameter of discharge opening (GLUMRB Section 42.33)				
Can the pump be removed without dewatering the wet well? (GLUMRB Section 44.2)				
Is the power cable provided with strain relief? (GLUMRB Section 44.33)				
Is a separate lifting chain/cable provided? (GLUMRB Section 44.2)				
SCREW PUMPS ONLY <input checked="" type="checkbox"/> N/A	Pump 1	Pump 2	Pump 3	Pump 4
Does the pump have its own wet well and slide gate?				
Have provisions for starting the pump when the wet well is frozen been provided?				

18. Dry Well Construction
☒ N/A (Skip to Item 19)

a. Is the dry well completely separated from the wet well? (GLUMRB Section 42.21)

☐ Yes ☐ No

b. Is a sump pump provided for dewatering the dry well? (GLUMRB Section 42.37)

☐ Yes ☐ No

c. Is the sump pump discharge line air gapped above the high water alarm elevation?

☐ Yes ☐ No

d. Has the stairway/access ladder been provided with non-slip treads?

☐ Yes ☐ No

18. Dry Well Construction, cont.

- e. Has a rigidly fixed landing been provided every 10 vertical feet for factory built pump stations or every 12 vertical feet for built-in-place pump stations? (GLUMRB Section 42.232)
- f. What type of ventilation has been provided? (GLUMRB Section 42.71 and 42.76)
- g. Number of air changes per hour (GLUMRB Section 42.76):
- h. Where are the controls for the ventilation equipment located? (GLUMRB Section 42.73)
- i. Is the dry well ventilation system separate from the wet well system?
- j. Is automatic heating and dehumidification equipment provided for the protection of motors and control systems? (GLUMRB Section 42.74)
- k. Are the lights, fan wheels, etc., designed for NEC Class I, Group D, Division 1 locations? (GLUMRB Section 42.35)

☐ Yes ☐ No

Continuous Intermittent

☐ ☐

_____ at _____ cfm

Inside Outside

☐ ☐
☐ Yes ☐ No

☐ Yes ☐ No

☐ Yes ☐ No
19. Wet Well Construction ☒ N/A (Skip to Item 20)

- a. Is a separate or divided wet well provided? (GLUMRB Section 42.61)
- b. Wet well effective volume (GLUMRB Section 42.62) Effective volume calculated between shutoff and first level on.
- c. Are inlets to the wet well provided below the minimum water surface to prevent turbulence and subsequent odors?
- d. Is there a bypass or overflow from the wet well?

Divided Separate

☐ ☐

_____ gallons

☐ Yes ☐ No

☐ Yes ☐ No

If Yes,

i. What is the elevation of the overflow invert?

ii. Is treatment of the bypass/overflow provided?

iii. Are there provision for retaining waste on site?

Yes No N/A

☐ ☐ ☐

Yes No N/A

☐ ☐ ☐

Continuous Intermittent Portable

☐ ☐ ☐

_____ at _____ cfm

Inside Outside

☐ ☐
☐ Yes ☐ No

20. Pump Controls and Flow Measurements **N/A**

a. Wet Well Elevations

Suction Line Invert

Discharge Line Invert

Bottom of Wet Well

Low Shut Off

Pump No. 1 Start

Pump No. 2 Start

Pump No. 3 Start

High Water Alarm

b. Flow Measurements (indicate which type of flow measurement)

Indicating, totalizing, and recording device
(design peak hourly flow > 1,200 gpm)

☐

Elapsed time meters (design peak
hourly flow < 1,200 gpm)

☐21. Protection of Water Supplies **N/A**

Is potable water provided at the pump station?

☐

Yes

☐

No

If Yes, is a minimum air gap of 6 inches, break tank, and booster pump provided?
(GLUMRB Section 42.9)

☐

Yes

☐

No

22. Emergency Operation

a. Type of emergency pumping capability provided? (GLUMRB Section 46.2)

☐

Dual substation

☐

Portable generator

☐

Permanent generator

☐

Portable pump

☒

None

If None, please explain: **If the slurry line pump goes down, the preparation plant is shut down. The sump described in the P.T.I. Form A and shown on the plan drawings, has capacity over and above what is necessary to hold the entire contents of the slurry line.**

b. Regardless of type of emergency pumping capability provided, does the standby system have sufficient capacity to start up and maintain the total rated running capacity of the pump station? (GLUMRB Section 46.2)

☐

Yes

☐

No

c. Is the portable generator or portable pump used to provide stand-by operation at multiple locations? If Yes, how many: _____

☐

Yes

☐

No

☐

N/A

d. Is an electrical hookup for a portable generator provided?

☐

Yes

☐

No

☐

N/A

e. Is a hookup to the force main for portable pumps provided? (GLUMRB Section 46.2)

☐

Yes

☐

No

f. Does the owner/operator of the pump station have any portable pumps to use when needed? (GLUMRB Section 46.2)

☐

Yes

☐

No

g. What type of alarm is provided? (GLUMRB Section 45)

☐

Telemetered

☐Audio Visual,
battery operated☐

Other: _____

(Please specify)

23. Authorities N/A

- a. Plans for the proposed installation of a county, village, or municipal sewer that is tributary to a sewage treatment plant with another political entity must be accompanied by written consent of both entities.

Is a written intermunicipal agreement is attached?

Yes
☐

No
☐

N/A
☒

If no, state what form of consent is provided: _____

- b. Have all permanent construction easements been obtained?

Yes
☐

No
☐

N/A
☒

- c. Have all temporary construction easements been obtained?

Yes
☐

No
☐

N/A
☒

24. Submittals

This application must include the following unless otherwise instructed by Ohio EPA:

- ☒ Four copies of the detail plans including profile and plan views of all sewers(none) (~~pipeline~~) (shown on the same sheet), existing (as applicable) and proposed pump station facilities, incorporating all of the details outlined in Section 20.1, 20.2 and 20.3 of *Recommended Standards for Wastewater Facilities*.
- ☐ Two copies of complete technical specifications
- ☒ Two copies of the Permit to Install Application including Form A and pertinent B forms
- ☒ Fee check payable to "Treasurer, State of Ohio"

25. The foregoing data is true statement of facts pertaining to this proposed (~~existing slurry pipeline~~) sanitary sewer(none) and/or pump station installation.

Date: 9-03-04

Signed: _____

Jason C. Craven

Engineer preparing plans

P.E.

